Remarks

Claims 1, 9 and 17 have been amended. Claims 8, 16 and 18 have been cancelled and new claims 19 and 20 have been added.

The Examiner has rejected applicants' claims 1-3, 8-11 and 16-18 under 35 U.S.C. §103(a) as being unpatentable over the Lipson, et al. (US 6,463,426) patent in view of the Murakawa (US 6,249,607) patent. The Examiner has also rejected applicants' claims 7 and 15 under 35 U.S.C. §103(a) as being unpatentable over the Lipson, et al. patent in view of the Murakawa patent in further view of the Shiiyama (US 6,411,291) patent.

Applicants have cancelled applicants' claims 8, 16 and 18, thereby obviating the Examiner's rejection with respect to such claims. Applicants have amended applicants' independent claims 1, 9 and 17, and with respect to such claims, as amended, and their respective dependent claims, the Examiner's rejection is respectfully traversed.

Applicants' independent claims 1, 9 and 17 have been amended to better define applicants' invention. More particularly, applicants' independent claim 1 has now been amended to recite a similarity calculating means for calculating degree of similarity between each of the plurality of images and the retrieval source image, wherein said similarity calculating means calculates the degree of similarity between each image that has been stored in the storage means and the retrieval-source image using the plural sets of image features acquired by the acquisition means and adopts maximum degree of similarity as the degree of similarity between a particular image and the retrieval-source image, and a retrieval means for retrieving the desired image from the plurality of stored images based on the degrees of similarity between the plurality of stored images and the retrieval source image, calculated by

the similarity calculating means. Applicants' independent claims 9 and 17 have been similarly amended.

The constructions recited in applicants' independent claims 1, 9 and 17, and their respective dependent claims, are not taught or suggested by the cited art of record. More particularly, the Examiner has argued that the Lipson, et al. patent teaches calculating degree of similarity between each image that has been stored in said storage means and the retrieval source image using the plural sets of image features acquired by said acquisition means (col. 15, line 16 – col. 16, line 58) and adopting maximum degree of similarity as the degree of similarity between a particular image and the retrieval-source image (col. 17, lines 54-67).

The Examiner has also acknowledged that the Lipson, et al. patent fails to teach or suggest an acquisition means for generating image features by multiplying each of the image features of the plurality of tiles that have been stored in the storage means, by a constant and acquiring plural sets of image features regarding one image by varying the constant. The Examiner has however argued that Column 13, lines 20-54 of the Murakawa patent discloses such features and that it would have been obvious to include a step for generating image features by multiplying each of the image features of the plurality of tiles that have been stored in the storage means, by a constant and acquiring plural sets of image features regarding one image by varying the constant in the system of the Lipson, et al. patent.

Applicants have reviewed the passages cited by the Examiner, and submit that they do not teach or suggest the features of applicant's invention as presently claimed. Particularly, the Lipson, et al. patent and the Murakawa patent fail to teach or suggest a similarity calculating means which calculates a degree of similarity from a plurality of sets of image features

acquired by the acquisition means and adopts maximum degree of similarity as the degree of similarity between a particular image and the retrieval source image.

In particular, the Lipson, et al. patent at column 17, lines 54-67, states that the display screen shows a results image region 138 and that this region 138 depicts images 138a-138h and below each image "is a corresponding value 139a-139h corresponding to a measure or score indicating the similarity (or match) of each of the images 138a-138h to the query image." These lines further state that "the image 138a identically matches query image 136 and thus receives a score of zero (0) indicating a best possible match between the query image 136 and a target image which may, for example, be stored in a storage device . . ..."

However, the image 138a is depicted with the other images 138b-138h and there is no teaching or suggestion in the Lipson, et al. patent to adopt the maximum degree of similarity as the degree of similarity between a particular image and the retrieval-source image, let alone in a case where the degree of similarity is calculated using plural sets of image features acquired by an acquisition means by multiplying each of the image features of a plurality of tiles by a constant and varying the constant. Likewise the Murakawa, et al patent fails to teach or suggest such features.

In particular, the Murakawa patent teaches that the similarity between a key image and a particular image is determined by using a plurality of coefficients which represent the feature quantities (Col. 13, lines 40-44) and that the similarity is determined by comparing the overall shapes of graphics or by comparing the details of the external shape. Specifically, the Murakawa patent teaches that in determining the degree of similarity, the coefficients are multiplied by the weight value, and that the weight values are varied based on the type of the comparison between the images, i.e. overall shape or details of the external shape. Namely,

the comparison of overall shapes of graphics is accomplished by multiplying coefficients for lower orders by larger weights and multiplying coefficients for higher orders by lower weights while the comparison of details of the external shape is accomplished by multiplying coefficients for higher orders by greater weights and by multiplying coefficients for lower orders by lower weights.

There is, however, nothing taught or suggested in the Murakawa patent of adopting the maximum degree of similarity as the degree of similarity between a particular image and the retrieval-source image in a case where the degree of similarity is calculated using plural sets of image features acquired by an acquisition means by multiplying each of the image features of a plurality of tiles by a constant and varying the constant. Instead, the Murakawa patent only discloses calculation of similarities based on different types of comparisons by varying the weight value by which each of the image features is multiplied and the displaying of retrieval results in sorted order.

Accordingly, applicants' amended independent claims 1, 9 and 17, and their respective dependent claims, are believed to patentably distinguish over the combination of the Lipson, et al. and Murakawa patents. Moreover, there is nothing taught or suggested in the Shiiyama patent to change this conclusion.

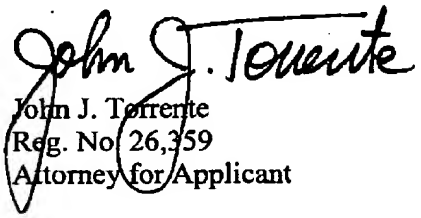
Additionally, applicants' new claims 19 and 20 also patentably distinguish over the cited references. Particularly, neither the Lipson, et al. patent nor the Murakawa patent teach or suggest a generation means for generating a set of features by multiplying one of the calculated image feature and the image feature of a selected image by a variable and determination means for determining single degree of similarity from a set of degrees of

similarity as a degree of similarity between a retrieval source image and the selected image, as recited in these claims.

In view of the above, it is submitted that applicants' claims, as amended, patentably distinguish over the cited art of record. Accordingly, reconsideration of the claims is respectfully requested.

Dated: July 23, 2004

Respectfully submitted,



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